

**IN THE ABSTRACT:**

Please replace the Abstract currently in the Application with the following:

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A water distribution model calibration technique is provided that allows a user to design a calibration model by selecting several input parameters desired to be used for the calibration of a model that allows an engineer to collect a complete set of data to represent the overall system conditions at any given time of day. For example, several parameters may be chosen including link status, the pipe roughness coefficient, junction demand, and pipe and valve operational status. Trial solutions of the model calibration are generated by a genetic algorithm program. A hydraulic network solver program then simulates each trial solution. A calibration module runs a calibration evaluation program to evaluate how closely the model simulation is to the observed data.

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